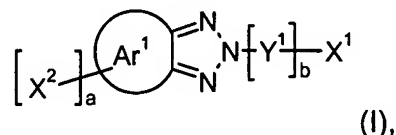


## IN THE CLAIMS

The text of all claims under examination is submitted, and the status of each is identified. This listing of claims replaces all prior versions, and listings, of claims in the application.

1. **(currently amended)**: An electroluminescent device, comprising a 2H-benzotriazole compound of the formula

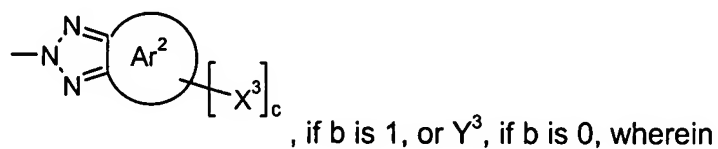


where

a is 0, or 1,

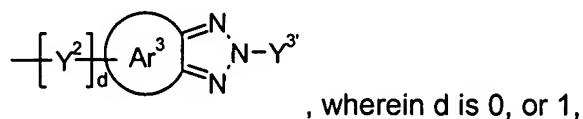
b is 0, or 1,

X<sup>1</sup> is a group of formula



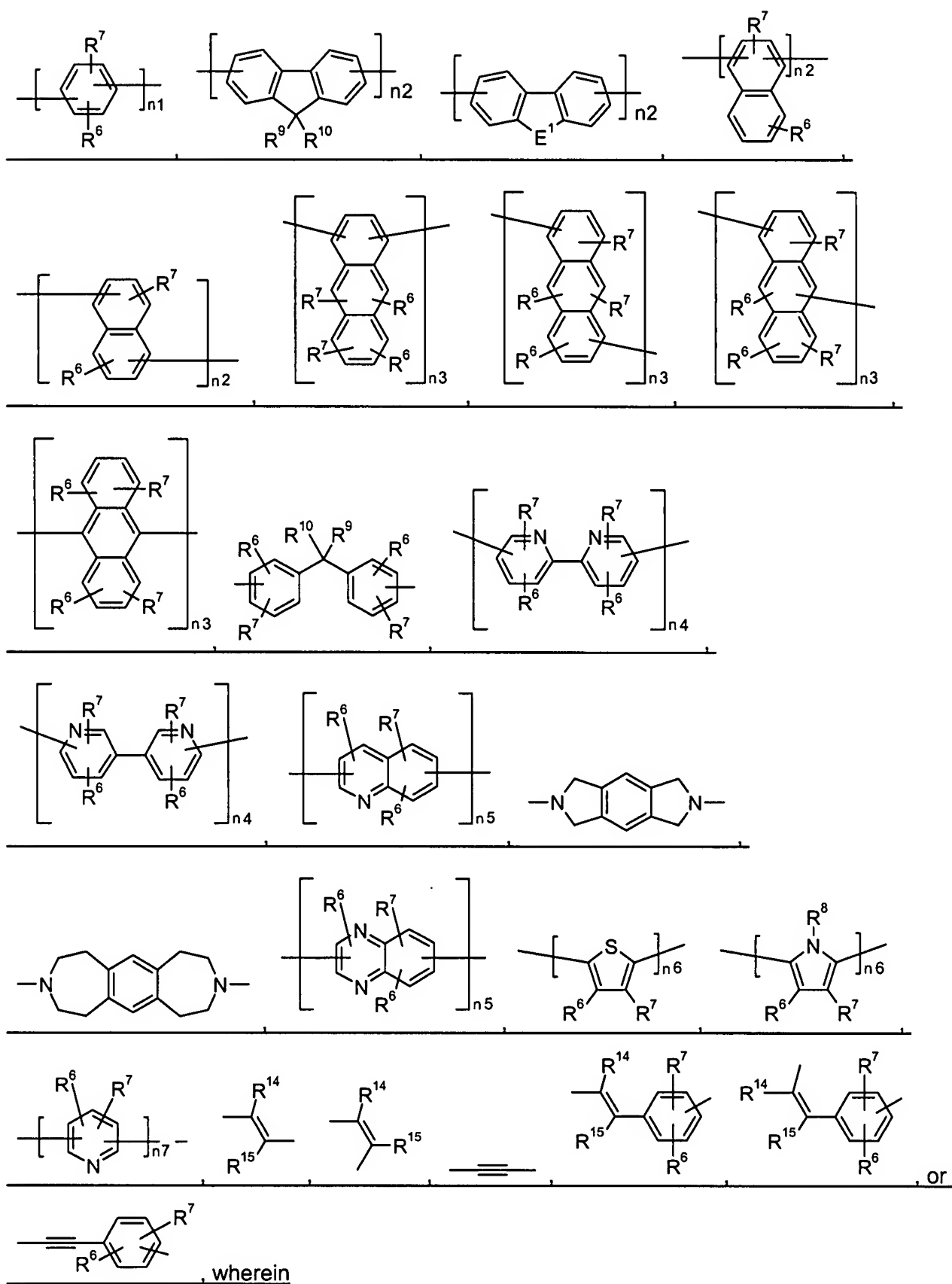
c is 0, or 1

X<sup>2</sup> and X<sup>3</sup> are independently of each other a group of formula



Ar<sup>1</sup>, Ar<sup>2</sup>, and Ar<sup>3</sup> are independently of each other C<sub>6</sub>-C<sub>30</sub>aryl or a C<sub>2</sub>-C<sub>26</sub>heteroaryl, which can optionally be substituted,

Y<sup>1</sup> and Y<sup>2</sup> are independently of each other ~~a divalent linking group,~~



n1, n2, n3, n4, n5, n6 and n7 are 1, 2, or 3.

E<sup>1</sup> is -S-, -O-, or -NR<sup>25'</sup>-, wherein R<sup>25'</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>6</sub>-C<sub>10</sub>aryl,

R<sup>6</sup> and R<sup>7</sup> are independently of each other H, halogen, hydroxy, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>1</sub>-C<sub>24</sub>perfluoroalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or -NR<sup>25</sup>-, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy which is substituted by E, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, C<sub>7</sub>-C<sub>25</sub>aralkyl, C<sub>7</sub>-C<sub>25</sub>aralkyl, which is substituted by E, C<sub>7</sub>-C<sub>25</sub>aralkoxy, C<sub>7</sub>-C<sub>25</sub>aralkoxy which is substituted by E, or -CO-R<sup>28</sup>,

R<sup>8</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, or C<sub>7</sub>-C<sub>25</sub>aralkyl,

R<sup>9</sup> and R<sup>10</sup> are independently of each other C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, or C<sub>7</sub>-C<sub>25</sub>aralkyl, or

R<sup>9</sup> and R<sup>10</sup> form a five- or six-membered ring,

R<sup>14</sup> and R<sup>15</sup> are independently of each other H, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, or C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E,

D is -CO-, -COO-, -S-, -SO-, -SO<sub>2</sub>-, -O-, -NR<sup>25</sup>-, -SiR<sup>30</sup>R<sup>31</sup>-, -POR<sup>32</sup>-, -CR<sup>23</sup>=CR<sup>24</sup>-, or -C≡C-, and

E is -OR<sup>29</sup>-, -SR<sup>29</sup>-, -NR<sup>25</sup>R<sup>26</sup>-, -COR<sup>28</sup>-, -COOR<sup>27</sup>-, -CONR<sup>25</sup>R<sup>26</sup>-, -CN, -OCOOR<sup>27</sup>-, or halogen,

wherein

R<sup>23</sup>, R<sup>24</sup>, R<sup>25</sup> and R<sup>26</sup> are independently of each other H, C<sub>6</sub>-C<sub>18</sub>aryl, C<sub>6</sub>-C<sub>18</sub>aryl which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-,

or

R<sup>25</sup> and R<sup>26</sup> together form a five or six membered ring,

R<sup>27</sup> and R<sup>28</sup> are independently of each other H, C<sub>6</sub>-C<sub>18</sub>aryl, C<sub>6</sub>-C<sub>18</sub>aryl which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-,

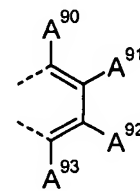
R<sup>29</sup> is H, C<sub>6</sub>-C<sub>18</sub>aryl, C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-,

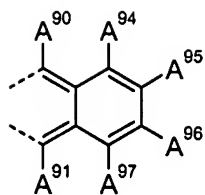
R<sup>30</sup> and R<sup>31</sup> are independently of each other C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>18</sub>aryl, or C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, and

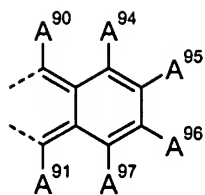
R<sup>32</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>18</sub>aryl, or C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl,

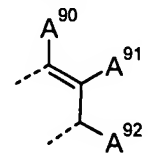


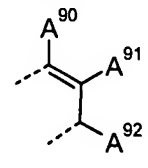
$R^{85}$ ,  $R^{86}$ , and  $R^{87}$ , which are neighbouring to each other, are a group





or , wherein  $A^{90}$ ,  $A^{91}$ ,  $A^{92}$ ,  $A^{93}$ ,  $A^{94}$ ,  $A^{95}$ ,  $A^{96}$  and  $A^{97}$  are independently of each other H, halogen, hydroxy,  $C_1$ - $C_{24}$ alkyl,  $C_1$ - $C_{24}$ alkyl which is substituted by E and/or interrupted by D,  $C_1$ - $C_{24}$ perfluoroalkyl,  $C_5$ - $C_{12}$ cycloalkyl,  $C_5$ - $C_{12}$ cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or -NR<sup>25</sup>-,  $C_5$ - $C_{12}$ cycloalkoxy,  $C_5$ - $C_{12}$ cycloalkoxy which is substituted by E,  $C_6$ - $C_{24}$ aryl,  $C_6$ - $C_{24}$ aryl which is substituted by E,  $C_2$ - $C_{20}$ heteroaryl,  $C_2$ - $C_{20}$ heteroaryl which is substituted by E,  $C_2$ - $C_{24}$ alkenyl,  $C_2$ - $C_{24}$ alkynyl,  $C_1$ - $C_{24}$ alkoxy,  $C_1$ - $C_{24}$ alkoxy which is substituted by E and/or interrupted by D,  $C_7$ - $C_{25}$ aralkyl,  $C_7$ - $C_{25}$ aralkyl, which is substituted by E,  $C_7$ - $C_{25}$ aralkoxy,  $C_7$ - $C_{25}$ aralkoxy which is substituted by E, or -CO-R<sup>28</sup>,  $R^{68}$ ,  $R^{69}$ ,  $R^{78}$ ,  $R^{79}$ ,  $R^{88}$  and  $R^{89}$  are independently of each other  $C_1$ - $C_{18}$  alkyl,  $C_1$ - $C_{24}$ alkyl which is substituted by E and/or interrupted by D,  $C_6$ - $C_{24}$ aryl,  $C_6$ - $C_{24}$ aryl which is substituted by E,  $C_2$ - $C_{20}$ heteroaryl,  $C_2$ - $C_{20}$ heteroaryl which is substituted by E,  $C_2$ - $C_{24}$ alkenyl,  $C_2$ - $C_{24}$ alkynyl,  $C_1$ - $C_{24}$ alkoxy,  $C_1$ - $C_{24}$ alkoxy which is substituted by E and/or interrupted by D, or  $C_7$ - $C_{25}$ aralkyl, or  $R^{68}$  and  $R^{69}$ ,  $R^{78}$  and  $R^{79}$ , and/or  $R^{88}$  and  $R^{89}$  form a five- or six-membered ring, or



$R^{68}$  and  $R^{70}$ ,  $R^{69}$  and  $R^{73}$ ,  $R^{77}$  and  $R^{78}$  and/or  $R^{84}$  and  $R^{89}$  are a group , D is -CO-, -COO-, -S-, -SO-, -SO<sub>2</sub>-, -O-, -NR<sup>25</sup>-, -SiR<sup>30</sup>R<sup>31</sup>-, -POR<sup>32</sup>-, -CR<sup>23</sup>=CR<sup>24</sup>-, or -C≡C-, and E is -OR<sup>29</sup>-, -SR<sup>29</sup>-, -NR<sup>25</sup>R<sup>26</sup>-, -COR<sup>28</sup>-, -COOR<sup>27</sup>-, -CONR<sup>25</sup>R<sup>26</sup>-, -CN, -OCOOR<sup>27</sup>-, or halogen; wherein

$R^{23}$ ,  $R^{24}$ ,  $R^{25}$  and  $R^{26}$  are independently of each other H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-, or

$R^{25}$  and  $R^{26}$  together form a five or six membered ring,

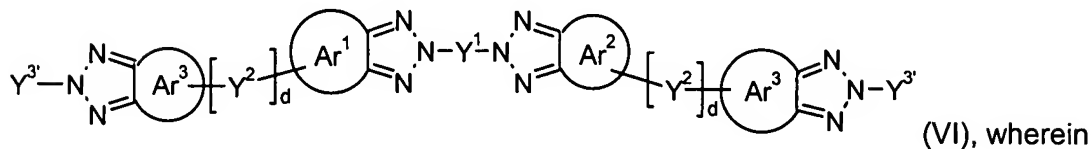
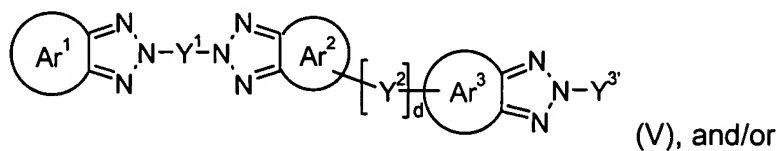
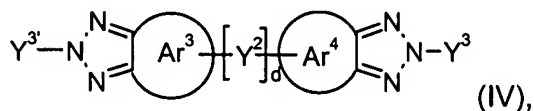
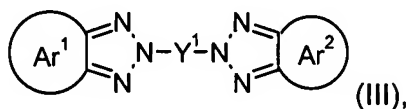
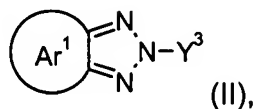
$R^{27}$  and  $R^{28}$  are independently of each other H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-,

$R^{29}$  is H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl, which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-,

$R^{30}$  and  $R^{31}$  are independently of each other  $C_1$ - $C_{24}$ alkyl,  $C_6$ - $C_{18}$ aryl, or  $C_6$ - $C_{18}$ aryl, which is substituted by  $C_1$ - $C_{24}$ alkyl, and

$R^{32}$  is  $C_1$ - $C_{24}$ alkyl,  $C_6$ - $C_{18}$ aryl, or  $C_6$ - $C_{18}$ aryl, which is substituted by  $C_1$ - $C_{24}$ alkyl.

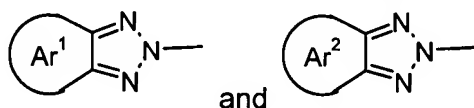
2. (previously presented): An electroluminescent device according to claim 1, comprising a 2H-benzotriazole compound of the formula



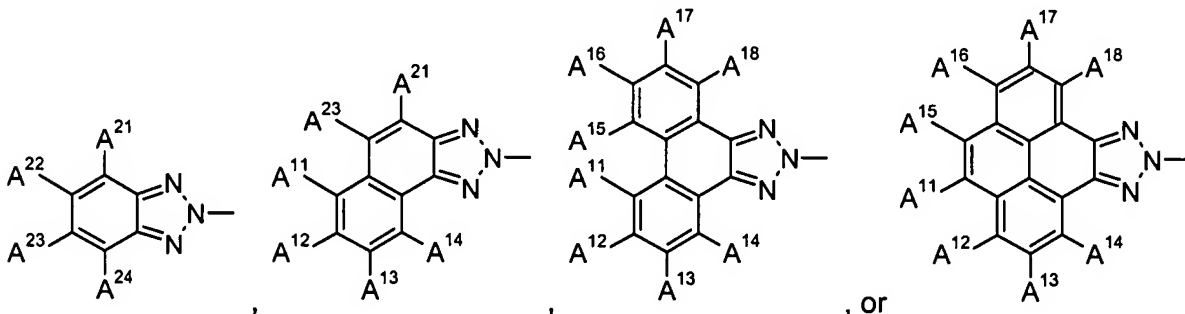
d, Ar¹, Ar², Ar³, Y¹ and Y² are defined as in claim 1 and

Ar⁴ stand for C₆-C₃₀aryl or a C₂-C₂₆heteroaryl, which can optionally be substituted.

3. (previously presented): An electroluminescent device according to claim 2, wherein

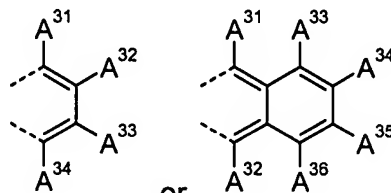


in formula II or III are independently of each other a group of formula

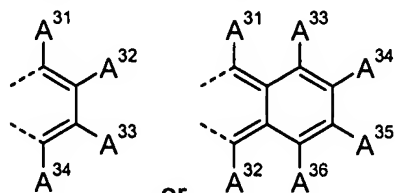


wherein

$A^{21}$ ,  $A^{22}$ ,  $A^{23}$ ,  $A^{24}$ ,  $A^{11}$ ,  $A^{12}$ ,  $A^{13}$ ,  $A^{14}$ ,  $A^{15}$ ,  $A^{16}$ ,  $A^{17}$  and  $A^{18}$  are independently of each other H, halogen, hydroxy,  $C_1$ - $C_{24}$ alkyl,  $C_1$ - $C_{24}$ alkyl which is substituted by E and/or interrupted by D,  $C_1$ - $C_{24}$ perfluoroalkyl,  $C_5$ - $C_{12}$ cycloalkyl,  $C_5$ - $C_{12}$ cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or - $NR^{25}$ -, - $NR^{25}R^{26}$ ,  $C_1$ - $C_{24}$ alkylthio, - $PR^{32}R^{32}$ ,  $C_5$ - $C_{12}$ cycloalkoxy,  $C_5$ - $C_{12}$ cycloalkoxy which is substituted by E,  $C_6$ - $C_{24}$ aryl,  $C_6$ - $C_{24}$ aryl which is substituted by E,  $C_2$ - $C_{20}$ heteroaryl,  $C_2$ - $C_{20}$ heteroaryl which is substituted by E,  $C_2$ - $C_{24}$ alkenyl,  $C_2$ - $C_{24}$ alkynyl,  $C_1$ - $C_{24}$ alkoxy,  $C_1$ - $C_{24}$ alkoxy which is substituted by E and/or interrupted by D,  $C_7$ - $C_{25}$ aralkyl,  $C_7$ - $C_{25}$ aralkyl, which is substituted by E,  $C_7$ - $C_{25}$ aralkoxy,  $C_7$ - $C_{25}$ aralkoxy which is substituted by E, or - $CO-R^{28}$ , or



$A^{22}$  and  $A^{23}$  or  $A^{11}$  and  $A^{23}$  are a group two groups  $A^{11}$ ,  $A^{12}$ ,  $A^{13}$ ,  $A^{14}$ ,  $A^{15}$ ,  $A^{16}$ ,  $A^{17}$  and  $A^{18}$ , which are neighbouring to each other, are a



group, or, wherein  $A^{31}$ ,  $A^{32}$ ,  $A^{33}$ ,  $A^{34}$ ,  $A^{35}$ ,  $A^{36}$  and  $A^{37}$  are independently of each other H, halogen, hydroxy,  $C_1$ - $C_{24}$ alkyl,  $C_1$ - $C_{24}$ alkyl which is substituted by E and/or interrupted by D,  $C_1$ - $C_{24}$ perfluoroalkyl,  $C_5$ - $C_{12}$ cycloalkyl,  $C_5$ - $C_{12}$ cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or - $NR^{25}$ -,  $C_5$ - $C_{12}$ cycloalkoxy,  $C_5$ - $C_{12}$ cycloalkoxy which is substituted by E,  $C_6$ - $C_{24}$ aryl,  $C_6$ - $C_{24}$ aryl which is substituted by E,  $C_2$ - $C_{20}$ heteroaryl,  $C_2$ - $C_{20}$ heteroaryl which is substituted by E,  $C_2$ - $C_{24}$ alkenyl,  $C_2$ - $C_{24}$ alkynyl,  $C_1$ - $C_{24}$ alkoxy,  $C_1$ - $C_{24}$ alkoxy which is substituted by E and/or interrupted by D,  $C_7$ - $C_{25}$ aralkyl,  $C_7$ - $C_{25}$ aralkyl, which is substituted by E,  $C_7$ - $C_{25}$ aralkoxy,  $C_7$ - $C_{25}$ aralkoxy which is substituted by E, or - $CO-R^{28}$ , D is -CO-; -COO-; -S-; -SO-; -SO<sub>2</sub>-; -O-; - $NR^{25}$ -, - $SiR^{30}R^{31}$ -, - $POR^{32}$ -, - $CR^{23}=CR^{24}$ -, or - $C\equiv C$ -; and E is - $OR^{29}$ -, - $SR^{29}$ -, - $NR^{25}R^{26}$ -, - $COR^{28}$ -, - $COOR^{27}$ -, - $CONR^{25}R^{26}$ -, -CN; - $OCOOR^{27}$ -, or halogen; wherein

$R^{23}$ ,  $R^{24}$ ,  $R^{25}$  and  $R^{26}$  are independently of each other H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-; or

$R^{25}$  and  $R^{26}$  together form a five or six membered ring,

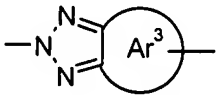
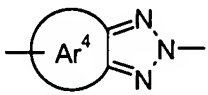
$R^{27}$  and  $R^{28}$  are independently of each other H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-,

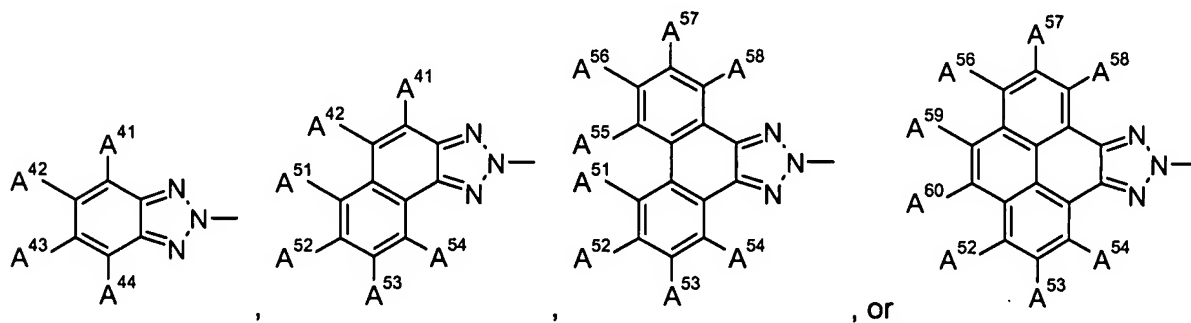
R<sup>29</sup> is H; C<sub>6</sub>-C<sub>18</sub>aryl; C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkoxy; C<sub>1</sub>-C<sub>24</sub>alkyl; or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-,

R<sup>30</sup> and R<sup>31</sup> are independently of each other C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>18</sub>aryl, or C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, and

R<sup>32</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>18</sub>aryl, or C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl.

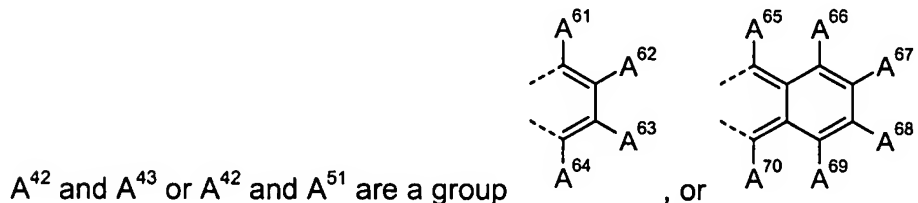
4. (previously presented): An electroluminescent device according to claim 2, wherein

 and  in formula IV are independently of each other a group of formula



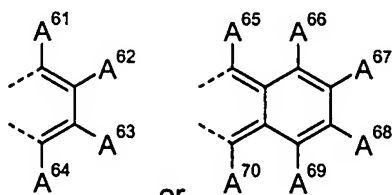
wherein

A<sup>41</sup>, A<sup>42</sup>, A<sup>43</sup>, A<sup>44</sup>, A<sup>51</sup>, A<sup>52</sup>, A<sup>53</sup>, A<sup>54</sup>, A<sup>55</sup>, A<sup>56</sup>, A<sup>57</sup>, A<sup>58</sup>, A<sup>59</sup> and A<sup>60</sup> are independently of each other H, halogen, hydroxy, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>1</sub>-C<sub>24</sub>perfluoroalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or -NR<sup>25</sup>-, NR<sup>25</sup>R<sup>26</sup>, C<sub>1</sub>-C<sub>24</sub>alkylthio, -PR<sup>32</sup>R<sup>32</sup>, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy which is substituted by E, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, C<sub>7</sub>-C<sub>25</sub>aralkyl, C<sub>7</sub>-C<sub>25</sub>aralkyl, which is substituted by E, C<sub>7</sub>-C<sub>25</sub>aralkoxy, C<sub>7</sub>-C<sub>25</sub>aralkoxy which is substituted by E, or -CO-R<sup>28</sup>, or





two groups  $A^{51}$ ,  $A^{52}$ ,  $A^{53}$ ,  $A^{54}$ ,  $A^{55}$ ,  $A^{56}$ ,  $A^{57}$ ,  $A^{58}$ ,  $A^{59}$  and  $A^{60}$ , which are neighbouring to each



other, are a group , or , wherein  $A^{61}$ ,  $A^{62}$ ,  $A^{63}$ ,  $A^{64}$ ,  $A^{65}$ ,  $A^{66}$ ,  $A^{67}$ ,  $A^{68}$ ,  $A^{69}$  and  $A^{70}$  are independently of each other H, halogen, hydroxy,  $C_1$ - $C_{24}$ alkyl,  $C_1$ - $C_{24}$ alkyl which is substituted by E and/or interrupted by D,  $C_1$ - $C_{24}$ perfluoroalkyl,  $C_5$ - $C_{12}$ cycloalkyl,  $C_5$ - $C_{12}$ cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or - $NR^{25}$ -,  $C_5$ - $C_{12}$ cycloalkoxy,  $C_5$ - $C_{12}$ cycloalkoxy which is substituted by E,  $C_6$ - $C_{24}$ aryl,  $C_6$ - $C_{24}$ aryl which is substituted by E,  $C_2$ - $C_{20}$ heteroaryl,  $C_2$ - $C_{20}$ heteroaryl which is substituted by E,  $C_2$ - $C_{24}$ alkenyl,  $C_2$ - $C_{24}$ alkynyl,  $C_1$ - $C_{24}$ alkoxy,  $C_1$ - $C_{24}$ alkoxy which is substituted by E and/or interrupted by D,  $C_7$ - $C_{25}$ aralkyl,  $C_7$ - $C_{25}$ aralkyl, which is substituted by E,  $C_7$ - $C_{25}$ aralkoxy,  $C_7$ - $C_{25}$ aralkoxy which is substituted by E, or - $CO-R^{28}$ ,

D is -CO-, -COO-, -S-, -SO-, - $SO_2$ -, -O-, - $NR^{25}$ -, - $SiR^{30}R^{31}$ -, -POR<sup>32</sup>-, - $CR^{23}=CR^{24}$ -, or - $C\equiv C$ -; and E is -OR<sup>29</sup>-, -SR<sup>29</sup>-, - $NR^{25}R^{26}$ -, -COR<sup>28</sup>-, -COOR<sup>27</sup>-, -CONR<sup>25</sup>R<sup>26</sup>-, -CN-, -OCOOR<sup>27</sup>-, or halogen;

wherein

$R^{23}$ ,  $R^{24}$ ,  $R^{25}$  and  $R^{26}$  are independently of each other H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-; or

$R^{25}$  and  $R^{26}$  together form a five or six membered ring,

$R^{27}$  and  $R^{28}$  are independently of each other H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-,

$R^{29}$  is H;  $C_6$ - $C_{18}$ aryl;  $C_6$ - $C_{18}$ aryl, which is substituted by  $C_1$ - $C_{24}$ alkyl, or  $C_1$ - $C_{24}$ alkoxy;  $C_1$ - $C_{24}$ alkyl; or  $C_1$ - $C_{24}$ alkyl which is interrupted by -O-,

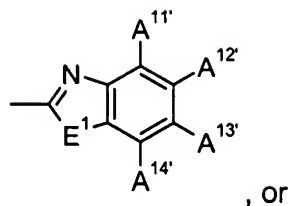
$R^{30}$  and  $R^{31}$  are independently of each other  $C_1$ - $C_{24}$ alkyl,  $C_6$ - $C_{18}$ aryl, or  $C_6$ - $C_{18}$ aryl, which is substituted by  $C_1$ - $C_{24}$ alkyl, and

$R^{32}$  is  $C_1$ - $C_{24}$ alkyl,  $C_6$ - $C_{18}$ aryl, or  $C_6$ - $C_{18}$ aryl, which is substituted by  $C_1$ - $C_{24}$ alkyl, wherein one of the substituents  $A^{41}$ ,  $A^{42}$ ,  $A^{43}$ ,  $A^{44}$ ,  $A^{51}$ ,  $A^{52}$ ,  $A^{53}$ ,  $A^{54}$ ,  $A^{55}$ ,  $A^{56}$ ,  $A^{57}$ ,  $A^{58}$ ,  $A^{59}$ ,  $A^{60}$ ,  $A^{61}$ ,  $A^{62}$ ,  $A^{63}$ ,  $A^{64}$ ,  $A^{65}$ ,  $A^{66}$ ,  $A^{67}$ ,  $A^{68}$ ,  $A^{69}$  and  $A^{70}$  represents a single bond.

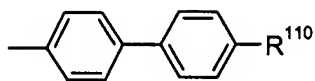
## 5-6. (canceled)

7. (previously presented): An electroluminescent device according to claim 2, wherein the 2H-benzotriazole compound is a compound of formula

R<sup>43</sup> is hydrogen, halogen, -CONR<sup>25</sup>R<sup>26</sup>, -COOR<sup>27</sup>,



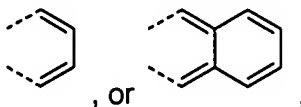
, or



, wherein

E<sup>1</sup> is -S-, -O-, or -NR<sup>25'</sup>-, wherein R<sup>25'</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>6</sub>-C<sub>10</sub>aryl,

R<sup>110</sup> is H, CN, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkylthio, -NR<sup>25</sup>R<sup>26</sup>, -CONR<sup>25</sup>R<sup>26</sup>, or -COOR<sup>27</sup>, or



R<sup>42</sup> and R<sup>43</sup> are a group of formula

, or

R<sup>44</sup> is hydrogen, or C<sub>1</sub>-C<sub>24</sub>alkyl,

R<sup>45</sup> is hydrogen, or C<sub>1</sub>-C<sub>24</sub>alkyl,

A<sup>11'</sup>, A<sup>12'</sup>, A<sup>13'</sup>, and A<sup>14'</sup> are independently of each other H, CN, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkylthio, -NR<sup>25</sup>R<sup>26</sup>, -CONR<sup>25</sup>R<sup>26</sup>, or -COOR<sup>27</sup>,

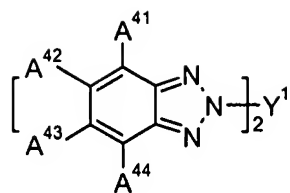
R<sup>68</sup> and R<sup>69</sup> are independently of each other C<sub>1</sub>-C<sub>24</sub>alkyl, which can be interrupted by one or two oxygen atoms,

R<sup>70</sup>, R<sup>71</sup>, R<sup>72</sup>, R<sup>73</sup>, R<sup>74</sup>, R<sup>75</sup>, R<sup>76</sup>, R<sup>90</sup>, R<sup>91</sup>, R<sup>92</sup>, and R<sup>93</sup> are independently of each other H, CN, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>10</sub>aryl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkylthio, -NR<sup>25</sup>R<sup>26</sup>, -CONR<sup>25</sup>R<sup>26</sup>, or -COOR<sup>27</sup>,

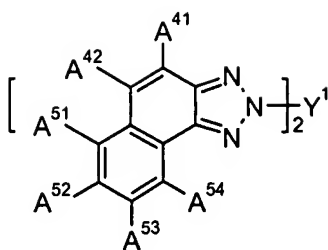
R<sup>25</sup> and R<sup>26</sup> are independently of each other H, C<sub>6</sub>-C<sub>18</sub>aryl, C<sub>7</sub>-C<sub>18</sub>aralkyl, or C<sub>1</sub>-C<sub>24</sub>alkyl, and

R<sup>27</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl.

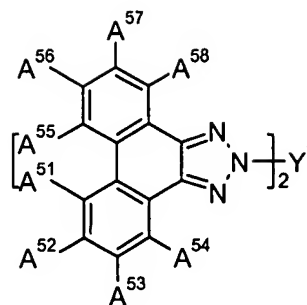
8. (previously presented): An electroluminescent device according to claim 2, wherein the 2H-benzotriazole compound is a compound of formula



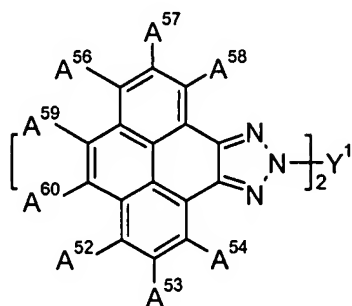
(IIIa),



(IIIb),



(IIIc),



or

(IIId), wherein

$A^{41}$ ,  $A^{42}$ ,  $A^{43}$  and  $A^{44}$  are independently of each other hydrogen, halogen,  $C_1$ - $C_{24}$ alkyl,  $C_1$ - $C_{24}$ perfluoroalkyl,  $C_6$ - $C_{18}$ aryl,  $-NR^{25}R^{26}$ ,  $-\text{CO}NR^{25}R^{26}$ , or  $-\text{COOR}^{27}$ , or  $C_2$ - $C_{10}$ heteroaryl, or



$A^{42}$  and  $A^{43}$  are a group of formula

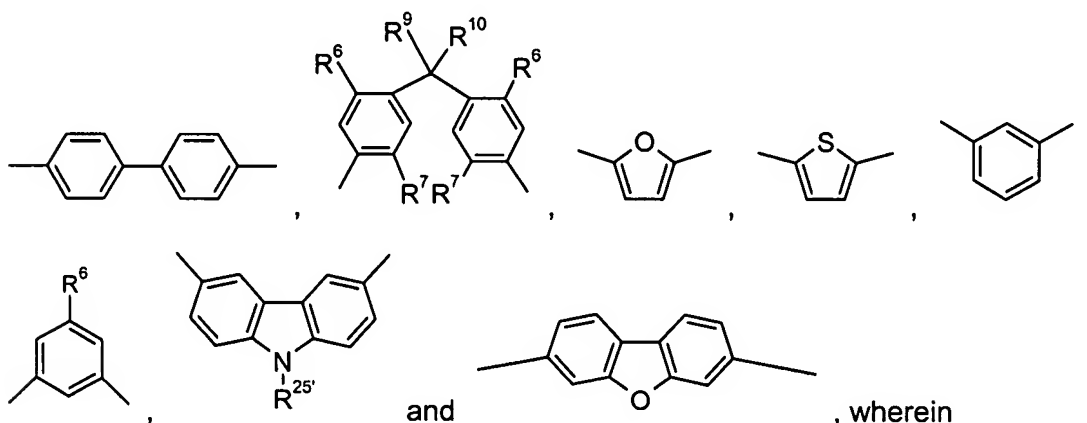
, or

$A^{51}$ ,  $A^{52}$ ,  $A^{53}$ ,  $A^{54}$ ,  $A^{55}$ ,  $A^{56}$ ,  $A^{57}$ ,  $A^{58}$ ,  $A^{59}$  and  $A^{60}$  are independently of each other H, CN,  $C_1$ - $C_{24}$ alkyl,  $C_1$ - $C_{24}$ alkoxy,  $C_1$ - $C_{24}$ alkylthio,  $C_6$ - $C_{18}$ aryl,  $-NR^{25}R^{26}$ ,  $-\text{CONR}^{25}R^{26}$ , or  $-\text{COOR}^{27}$ , or  $C_2$ - $C_{10}$ heteroaryl, wherein

$E^1$  is O, S, or  $-NR^{25'}$ ,

$R^{25}$  and  $R^{28}$  are independently of each other H,  $C_6$ - $C_{18}$ aryl,  $C_7$ - $C_{18}$ aralkyl, or  $C_1$ - $C_{24}$ alkyl,  $R^{27}$  is  $C_1$ - $C_{24}$ alkyl, and

$Y^1$  is a group of formula



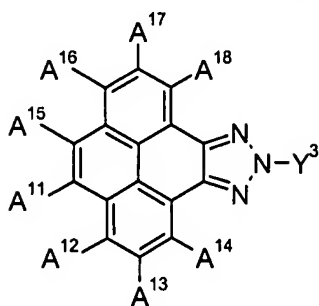
and

, wherein

(IIa),

(11b),

(IIC), or



(IId), wherein

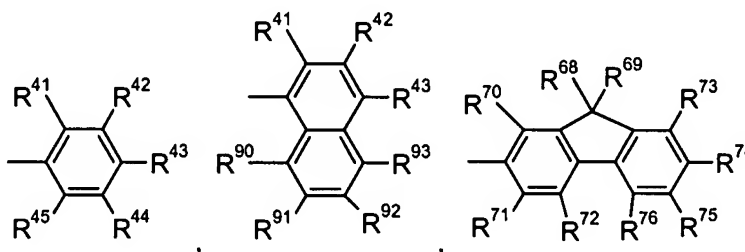
A<sup>21</sup>, A<sup>22</sup>, A<sup>23</sup> and A<sup>24</sup> are independently of each other hydrogen, halogen, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>perfluoroalkyl, C<sub>6</sub>-C<sub>18</sub>aryl, -NR<sup>25</sup>R<sup>26</sup>, -CONR<sup>25</sup>R<sup>26</sup>, or -COOR<sup>27</sup>, or C<sub>2</sub>-C<sub>10</sub>heteroaryl, or



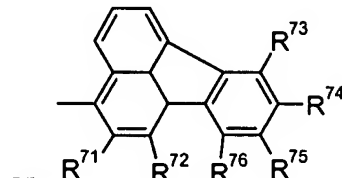
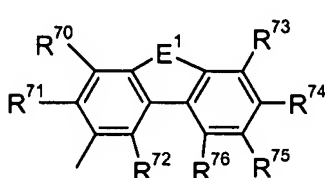
$A^{22}$  and  $A^{23}$  or  $A^{11}$  and  $A^{23}$  are a group of formula

A<sup>11</sup>, A<sup>12</sup>, A<sup>13</sup>, A<sup>14</sup>, A<sup>15</sup>, A<sup>16</sup>, A<sup>17</sup>, and A<sup>18</sup> are independently of each other H, CN, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkylthio, C<sub>6</sub>-C<sub>18</sub>aryl, -NR<sup>25</sup>R<sup>26</sup>, -CONR<sup>25</sup>R<sup>26</sup>, or -COOR<sup>27</sup>, or C<sub>2</sub>-C<sub>10</sub>heteroaryl, wherein

R<sup>25</sup> and R<sup>26</sup> are independently of each other H, C<sub>6</sub>-C<sub>18</sub>aryl, C<sub>7</sub>-C<sub>18</sub>aralkyl, or C<sub>1</sub>-C<sub>24</sub>alkyl, R<sup>27</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, and



$Y^3$  is a group of formula



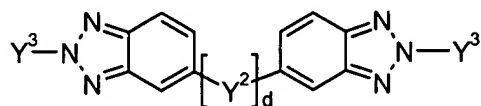
or  $R^{1/4}$   $R^{1/2}$   $R^{3/4}$   $R^{1/4}$ , wherein

R<sup>41</sup> is hydrogen, C<sub>1</sub>-C<sub>24</sub>alkoxy, or OC<sub>7</sub>-C<sub>18</sub>aralkyl,

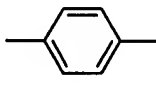
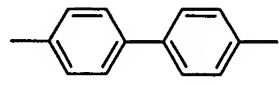
R<sup>42</sup> is hydrogen, or C<sub>1</sub>-C<sub>24</sub>alkyl,

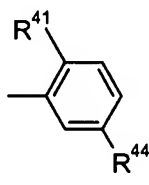
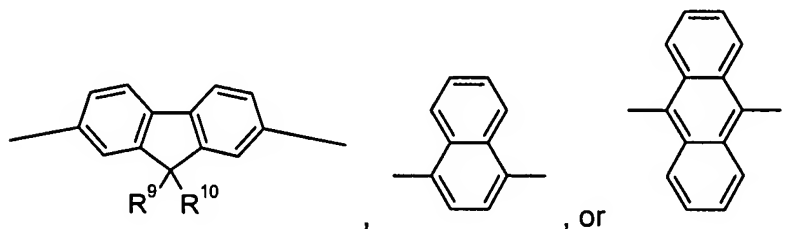
$R^6$  is  $C_1$ - $C_{24}$ alkoxy, or  $-O$ - $C_7$ - $C_{25}$ aralkyl,  $R^7$  is H, or  $C_1$ - $C_{24}$ alkyl,  $R^9$  and  $R^{10}$  are independently of each other  $C_1$ - $C_{24}$ alkyl, which can be interrupted by one or two oxygen atoms, and  $R^{25}$  is  $C_1$ - $C_{24}$ alkyl, or  $C_6$ - $C_{10}$ aryl.

9. (previously presented): An electroluminescent device according to claim 2, wherein the 2H-benzotriazole compound is a compound of formula



(VIa), wherein d is 0, or 1,

$Y^2$  is a group of formula  $-O-$ ,  $-S-$ ,  $-NR^{25}-$ , , ,



$Y^3$  is a group of formula , wherein

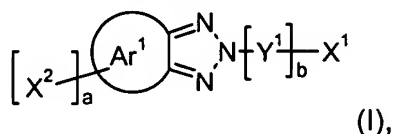
$R^9$  and  $R^{10}$  are independently of each other  $C_1$ - $C_{24}$ alkyl, which can be interrupted by one or two oxygen atoms,

$R^{25}$  is H,  $C_6$ - $C_{18}$ aryl,  $C_7$ - $C_{18}$ aralkyl, or  $C_1$ - $C_{24}$ alkyl,

$R^{41}$  is  $C_1$ - $C_{24}$ alkoxy, or  $C_7$ - $C_{15}$ phenylalkoxy, and

$R^{44}$  is H, or  $C_1$ - $C_{24}$ alkyl.

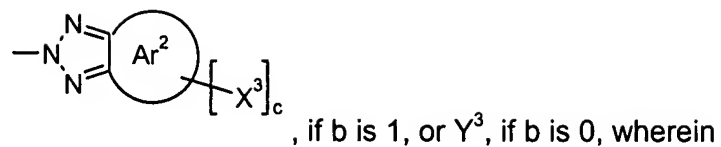
10. (currently amended): A 2H-benzotriazole compound of the formula



a is 0, or 1,

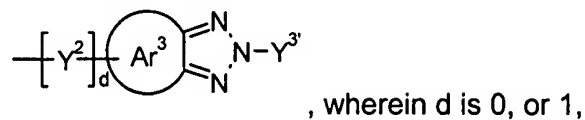
b is 0, or 1,

X<sup>1</sup> is a group of formula



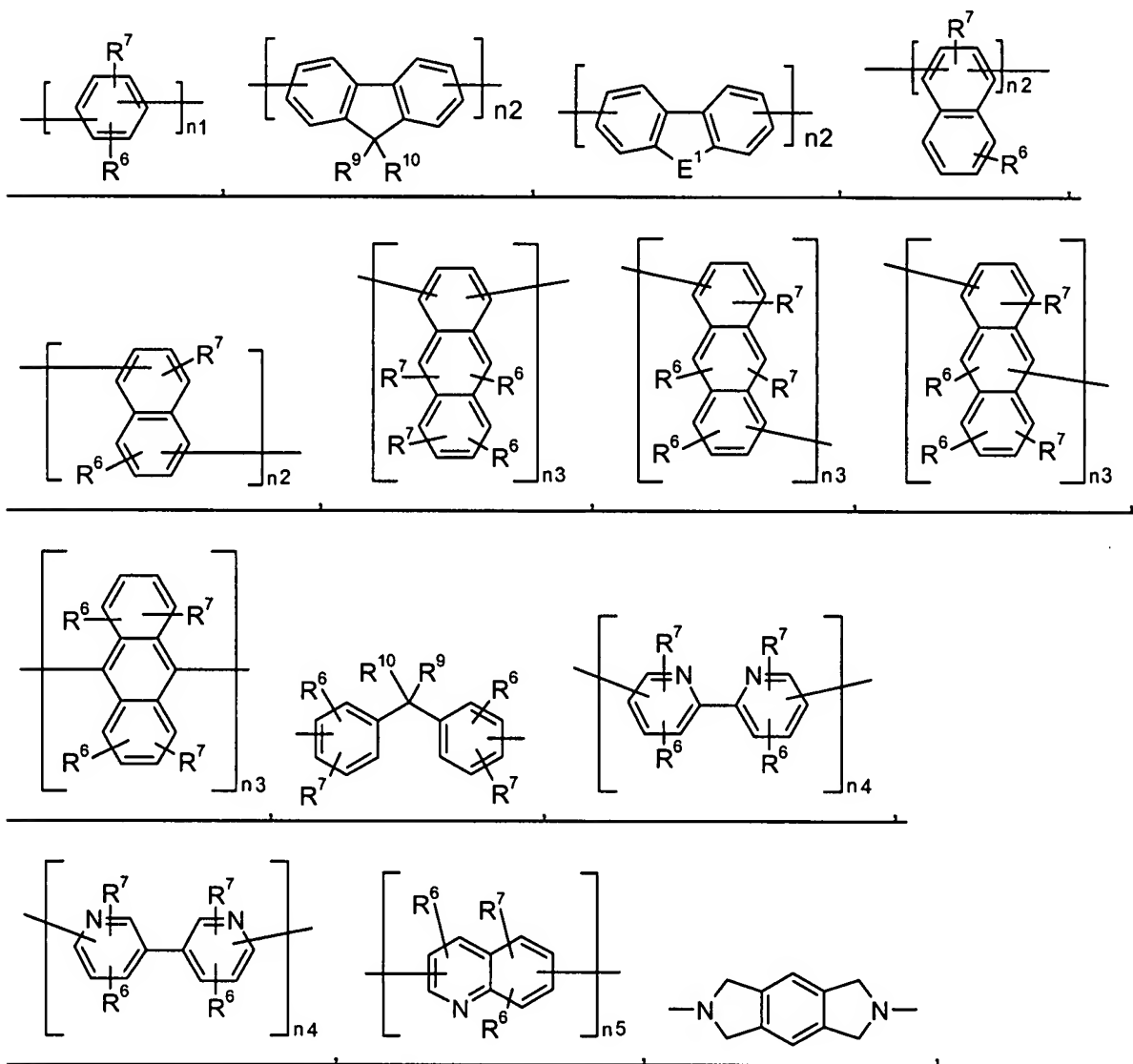
c is 0, or 1

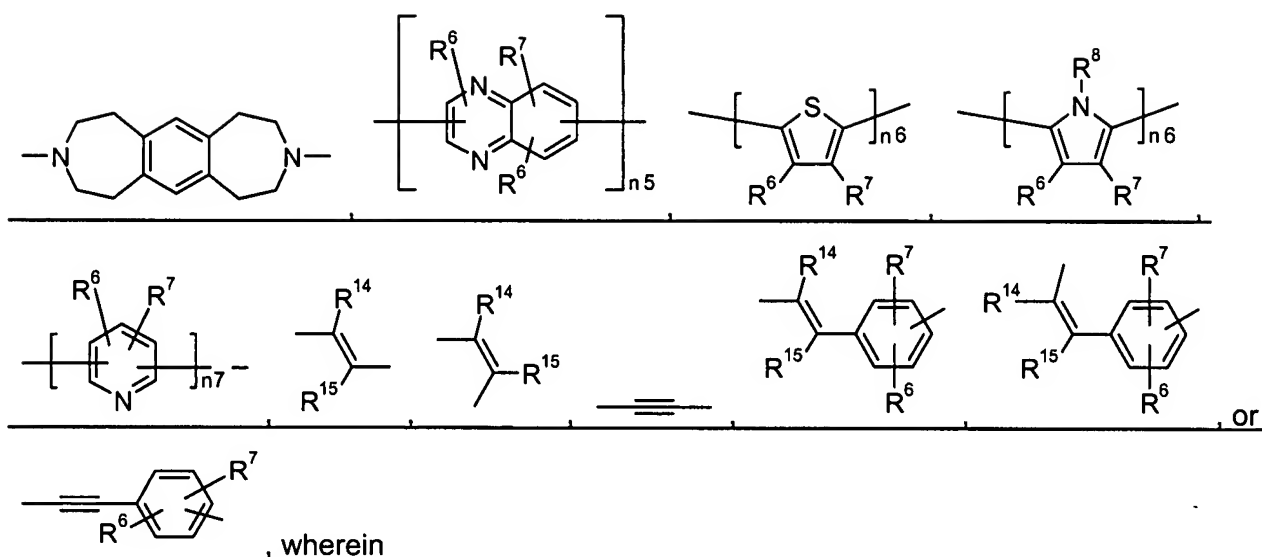
X<sup>2</sup> and X<sup>3</sup> are independently of each other a group of formula



Ar<sup>1</sup>, Ar<sup>2</sup>, and Ar<sup>3</sup> are independently of each other C<sub>6</sub>-C<sub>30</sub>aryl or a C<sub>2</sub>-C<sub>26</sub>heteroaryl, which can optionally be substituted,

Y<sup>1</sup> and Y<sup>2</sup> are independently of each other a divalent linking group





$n_1, n_2, n_3, n_4, n_5, n_6$  and  $n_7$  are 1, 2, or 3.

$E^1$  is -S-, -O-, or -NR<sup>25'</sup>-, wherein R<sup>25'</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>6</sub>-C<sub>10</sub>aryl.

R<sup>6</sup> and R<sup>7</sup> are independently of each other H, halogen, hydroxy, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>1</sub>-C<sub>24</sub>perfluoroalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or -NR<sup>25</sup>-, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy which is substituted by E, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, C<sub>7</sub>-C<sub>25</sub>aralkyl, C<sub>7</sub>-C<sub>25</sub>aralkyl, which is substituted by E, C<sub>7</sub>-C<sub>25</sub>aralkoxy, C<sub>7</sub>-C<sub>25</sub>aralkoxy which is substituted by E, or -CO-R<sup>28</sup>,

R<sup>8</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, or C<sub>7</sub>-C<sub>25</sub>aralkyl,

R<sup>9</sup> and R<sup>10</sup> are independently of each other C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, or C<sub>7</sub>-C<sub>25</sub>aralkyl, or

R<sup>9</sup> and R<sup>10</sup> form a five- or six-membered ring,

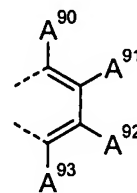
R<sup>14</sup> and R<sup>15</sup> are independently of each other H, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, or C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E,

D is -CO-, -COO-, -S-, -SO-, -SO<sub>2</sub>-, -O-, -NR<sup>25</sup>-, -SiR<sup>30</sup>R<sup>31</sup>-, -POR<sup>32</sup>-, -CR<sup>23</sup>=CR<sup>24</sup>-, or -C≡C-, and

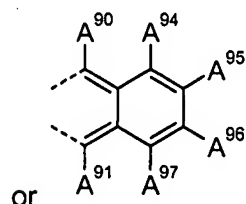




C<sub>18</sub>aryl, which is optionally substituted by E, C<sub>1</sub>-C<sub>24</sub>alkoxy, which is optionally substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>18</sub>aryloxy, which is optionally substituted by E, C<sub>7</sub>-C<sub>18</sub>arylalkoxy, which is optionally substituted by E, C<sub>1</sub>-C<sub>24</sub>alkylthio, which is optionally substituted by E and/or interrupted by D, C<sub>1</sub>-C<sub>24</sub>alkylselenium, which is optionally substituted by E and/or interrupted by D, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, or C<sub>6</sub>-C<sub>18</sub>aralkyl, which is optionally substituted by E, or two groups R<sup>41</sup>, R<sup>42</sup>, R<sup>43</sup>, R<sup>44</sup>, R<sup>45</sup>, R<sup>46</sup>, R<sup>47</sup>, R<sup>48</sup>, R<sup>49</sup>, R<sup>50</sup>, R<sup>51</sup>, R<sup>52</sup>, R<sup>53</sup>, R<sup>54</sup>, R<sup>55</sup>, R<sup>56</sup>, R<sup>57</sup>, R<sup>58</sup>, R<sup>59</sup>, R<sup>60</sup>, R<sup>61</sup>, R<sup>62</sup>, R<sup>63</sup>, R<sup>64</sup>, R<sup>65</sup>, R<sup>66</sup>, R<sup>67</sup>, R<sup>70</sup>, R<sup>71</sup>, R<sup>72</sup>, R<sup>73</sup>, R<sup>74</sup>, R<sup>75</sup>, R<sup>76</sup>, R<sup>77</sup>, R<sup>80</sup>, R<sup>81</sup>, R<sup>82</sup>, R<sup>83</sup>, R<sup>84</sup>,

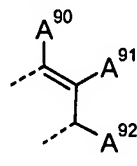


R<sup>85</sup>, R<sup>86</sup>, and R<sup>87</sup>, which are neighbouring to each other, are a group



or , wherein A<sup>90</sup>, A<sup>91</sup>, A<sup>92</sup>, A<sup>93</sup>, A<sup>94</sup>, A<sup>95</sup>, A<sup>96</sup> and A<sup>97</sup> are independently of each other H, halogen, hydroxy, C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>1</sub>-C<sub>24</sub>perfluoroalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl, C<sub>5</sub>-C<sub>12</sub>cycloalkyl which is substituted by E and/or interrupted by S-, -O-, or -NR<sup>25</sup>-, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy, C<sub>5</sub>-C<sub>12</sub>cycloalkoxy which is substituted by E, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, C<sub>7</sub>-C<sub>25</sub>aralkyl, C<sub>7</sub>-C<sub>25</sub>aralkyl, which is substituted by E, C<sub>7</sub>-C<sub>25</sub>aralkoxy, C<sub>7</sub>-C<sub>25</sub>aralkoxy which is substituted by E, or -CO-R<sup>28</sup>,

R<sup>68</sup>, R<sup>69</sup>, R<sup>78</sup>, R<sup>79</sup>, R<sup>88</sup> and R<sup>89</sup> are independently of each other C<sub>1</sub>-C<sub>18</sub> alkyl, C<sub>1</sub>-C<sub>24</sub>alkyl which is substituted by E and/or interrupted by D, C<sub>6</sub>-C<sub>24</sub>aryl, C<sub>6</sub>-C<sub>24</sub>aryl which is substituted by E, C<sub>2</sub>-C<sub>20</sub>heteroaryl, C<sub>2</sub>-C<sub>20</sub>heteroaryl which is substituted by E, C<sub>2</sub>-C<sub>24</sub>alkenyl, C<sub>2</sub>-C<sub>24</sub>alkynyl, C<sub>1</sub>-C<sub>24</sub>alkoxy, C<sub>1</sub>-C<sub>24</sub>alkoxy which is substituted by E and/or interrupted by D, or C<sub>7</sub>-C<sub>25</sub>aralkyl, or R<sup>68</sup> and R<sup>69</sup>, R<sup>78</sup> and R<sup>79</sup>, and/or R<sup>88</sup> and R<sup>89</sup> form a five- or six-membered ring, or



R<sup>68</sup> and R<sup>70</sup>, R<sup>69</sup> and R<sup>73</sup>, R<sup>77</sup> and R<sup>78</sup> and/or R<sup>84</sup> and R<sup>89</sup> are a group

D is -CO-; -COO-; -S-; -SO-; -SO<sub>2</sub>-; -O-; -NR<sup>25</sup>-; -SiR<sup>30</sup>R<sup>31</sup>-; -POR<sup>32</sup>-; -CR<sup>23</sup>=CR<sup>24</sup>-; or -C≡C-; and

E is -OR<sup>29</sup>; -SR<sup>29</sup>; -NR<sup>25</sup>R<sup>26</sup>; -COR<sup>28</sup>; -COOR<sup>27</sup>; -CONR<sup>25</sup>R<sup>26</sup>; -CN; -OCOOR<sup>27</sup>; or halogen;

wherein

R<sup>23</sup>, R<sup>24</sup>, R<sup>25</sup> and R<sup>26</sup> are independently of each other H; C<sub>6</sub>-C<sub>18</sub>aryl; C<sub>6</sub>-C<sub>18</sub>aryl which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkoxy; C<sub>1</sub>-C<sub>24</sub>alkyl; or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-; or

R<sup>25</sup> and R<sup>26</sup> together form a five or six membered ring,

R<sup>27</sup> and R<sup>28</sup> are independently of each other H; C<sub>6</sub>-C<sub>18</sub>aryl; C<sub>6</sub>-C<sub>18</sub>aryl which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkoxy; C<sub>1</sub>-C<sub>24</sub>alkyl; or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-,

R<sup>29</sup> is H; C<sub>6</sub>-C<sub>18</sub>aryl; C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, or C<sub>1</sub>-C<sub>24</sub>alkoxy; C<sub>1</sub>-C<sub>24</sub>alkyl; or C<sub>1</sub>-C<sub>24</sub>alkyl which is interrupted by -O-,

R<sup>30</sup> and R<sup>31</sup> are independently of each other C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>18</sub>aryl, or C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl, and

R<sup>32</sup> is C<sub>1</sub>-C<sub>24</sub>alkyl, C<sub>6</sub>-C<sub>18</sub>aryl, or C<sub>6</sub>-C<sub>18</sub>aryl, which is substituted by C<sub>1</sub>-C<sub>24</sub>alkyl.